

***Interactive comment on* “Streamflow forecasts from WRF precipitation for flood early warning in mountain tropical areas” by María Carolina Rogelis and Micha Werner**

Anonymous Referee #2

Received and published: 25 September 2017

Overall, the manuscript titled 'Streamflow forecasts from WRF precipitation for flood early warning in mountain tropical areas' demonstrates clear knowledge regarding numerical weather prediction modelling, particularly precipitation, and validation against observation values. Their analysis using raw model output, post-processed output, and ensemble data, shows that WRF forecasts can add additional skill when predicting precipitation in mountainous areas which could result in flooding. While the gain in skill may be relatively minor, as the authors discuss, the additional skill is forwarded onto any hydrological models, and would result in higher accuracy regarding flood timing and intensity.

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A few further additions to the manuscript would be beneficial:

- 1) The simulation uses 3 domains- please make it clear, perhaps on Figure 1, the boundaries of the three domains.
- 2) Also indicate the relationship between the domains, i.e. is there two-way nesting to allow communication between domains or does the communication only go one way.
- 3) If communication is in fact two directions, please add discussion why results are different between the three domains
- 4) Model settings: The authors refer to another manuscript in regards to their model setup. It would be helpful if they listed a few of the major settings of the model in this manuscript, primarily choice of cumulus parameterization setting as well as micro-physics setting.
- 5) The finest domain is 1.67 km, which is well within the grid-spacing necessary to adequately resolve convective precipitation. Please add discussion in this regard, as well as whenever it is mentioned that the model poorly resolved convective precipitation in the discussion.
- 6) References: there are numerous little errors within the reference list that could use correcting.

Minor comments:

P1,L6: WRF acronym used in abstract without its definition

P3, L9: Paramo, is this supposed to be capitalized or not. Not consistent throughout introduction

P4, L11: Please indicate the date range where the 107 selected days come from. MSE/MAE/ME equations come well after the first acronym is used, P5 L9

P11 L33: this one sentence paragraph can be added into the previous paragraph

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P12 L27: a comma (,) is surrounded by white space

P13 L1: 'Lead limes' should become 'lead times'

Figures/Tables:

Figure 1: include domain structure into this figure somehow.

Figure 2: "Precipitawon" shows up in the left side, strange formatting with this word too

Figure 3: Please describe what 'Q-Q' means within the manuscript and this figure caption

Figures 6-7: While all use the same legend style, the readers should not have to flip from one figure to the next to determine what each line means. Please include the legend on each figure.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2017-221>, 2017.

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